# Trip Report
# 2003 Annual Inspection and Radiological Survey of the Piqua Nuclear Power Facility, Piqua, Ohio, Decommissioned Reactor Site

## Summary

Piqua Nuclear Power Facility, a decommissioned nuclear power demonstration facility located on the east bank of the Great Miami River in Piqua, Ohio, was inspected on March 11 and 12, 2003. The site is in good physical condition. During the annual radiological survey, which is performed in conjunction with the annual inspection, removable contamination was detected at one location at a level well below established contamination limits. The only direct reading that exceeded the minimum detectable activity was at a floor drain, which has shown detectable beta activity in the past.

Suspect asbestos material was found in an inaccessible area of the containment building. Determination of who is responsible for removal of this material needs to be made.

There is no requirement for a follow-up inspection.

## 1.0 Introduction

This report presents the results of the annual U.S. Department of Energy (DOE) inspection of the Piqua Nuclear Power Facility (PNPF) in Piqua, Ohio. This facility is assigned to the DOE Grand Junction Office (GJO) for long-term custody and care.

T. G. Kirkpatrick (Chief Inspector) and M. E. Reed (Assistant Inspector), both of S.M. Stoller, the Technical Assistance Contractor at the DOE-GJO, conducted the inspection on March 11 and 12, 2003. Mr. Ron Davey, the Piqua Power Systems (PPS) Engineer, observed the inspection. Mr. W. J. Sommer, the PPS Director, was contacted during the inspection and briefed on the results. A copy of this report will be forwarded to Mr. Sommer.

The purpose of the inspection was to confirm the integrity of the visible features of the facility and to verify that no radiological hazards are present.

## 2.0 Inspection Results

Features and photograph locations (PLs) mentioned in this report are shown on the attached inspection drawing.

The reactor containment building and an associated auxiliary building are used by PPS as office, shop, and storage space. The inspectors walked around the outside of the facility to examine the exterior condition of the PNPF. The concrete decking between the auxiliary building and the reactor

containment building has significant deterioration (PL–1). Mr. Sommer was notified and he informed us that repairs have been scheduled for this year. The inspectors also inspected the facility interior looking for evidence of structural deterioration. Inspectors observed falling plaster and peeling paint at the bottom of the spiral staircase on the lowest accessible level, which might be evidence of water damage (PL–2). This damage has been noted on prior inspections and the condition remains unchanged. Peeling paint was observed on most areas of the interior dome walls (PL–3); this condition also has been noted on prior inspections and the condition remains unchanged. On the 111 foot elevation of the reactor containment building insulation has fallen off piping components and could be potentially friable asbestos; no photo was taken due to the poor lighting in this area. Mr. Sommer was notified of the situation. Safe handling of this material may include sampling and abatement. It was unclear to the inspectors if this maintenance item is the responsibility of DOE or PPS. Otherwise, the buildings are in good condition. No evidence of activities that might affect the integrity of the PNPF was observed either on site or off site in the immediate surrounding area. No follow-up inspection is required.

S.M. Stoller staff performed the annual radiological survey on the interior of the reactor containment building, auxiliary building, and exterior areas. A total of 111 sample points were investigated for both removable and surface contamination using direct measurements and smears for the detection of alpha and beta-gamma activity. Gamma dose rates also were measured. Table 1 presents information on the instrumentation used to perform the survey. Background gamma dose rates, measured on the PNPF grounds, averaged 3 microrem per hour (μr/hr). General area gamma dose rates measured throughout the facility ranged from 2 to 6 μr/hr.

*Table 1. Instrumentation for Radiological Survey*

| Type of Measurement | Radiation | Detector | Meter | Background | Correction Factor | Minimum Detectable Activity |
|---|---|---|---|---|---|---|
| Surface Activity | Alpha | Eberline Model SHP-340/ #16324 | Eberline Model E-600/ #16129 | 30 dpm/100 cm² | N/A | 145 dpm/ 100 cm² |
| Surface Activity | Beta | Eberline Model SHP-340/ #16324 | Eberline Model E-600/ #16129 | 1200 dpm/100 cm² | N/A | 684 dpm/ 100 cm² |
| Exposure Rate | Gamma | N/A | Bicron Micro-rem/ #15984 | 3 μr/hr | N/A | 1 μr/hr |
| Removable Activity | Alpha | N/A | Protean WPC-9350/ #15686 | 0.150 cpm | Efficiency 30.08 | 3.92 dpm/ 100 cm² |
| Removable Activity | Beta | N/A | Protean WPC-9350/ #15686 | 1.050 cpm | Efficiency 50.32 | 4.43 dpm/ 100 cm² |

key: cpm = counts per minute; dpm = disintegrations per minute; $cm^2$ = centimeters squared; μr/hr = microrem per hour

Table 2 presents direct surface and removable activity results. Removable contamination was found at sampling point number 4, levels reached 14.84 dpm/100$cm^2$, well below established contamination limits of 1000 dpm/100 $cm^2$. This location is outside the reactor building and could be attributed to natural environmental conditions. Direct surface reading results indicate the floor drain at the lowest level of the containment building exhibited a direct beta reading of 3,590 disintegrations per minute per 100 square centimeters. This result is consistent with previous surveys. All other readings were below the minimum detectable activity (MDA) level.

Attached are the survey maps that indicate the location of each direct measurement and smear location. The maps also indicate the results of the gamma dose rate survey conducted at PNPF.

*Table 2. Results of the 2002 Radiological Survey at the Piqua, Ohio, Decommissioned Reactor Site*

| Location/ Building | Elevation[a] | Direct/ Smear # | Direct Reading Activity dpm/100 cm$^2$ | | Removable Activity dpm/100 cm$^2$ | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | Alpha | Beta | Alpha | Beta | |
| Outside | 111 ft. | 1 | <MDA | <MDA | <MDA | <MDA | Under exhaust vent |
| Outside | 111 ft. | 2 | <MDA | <MDA | <MDA | <MDA | On HVAC unit |
| Outside | 111 ft. | 3 | <MDA | <MDA | <MDA | <MDA | On flange |
| Outside | 111 ft. | 4 | <MDA | <MDA | 3.66 | 14.84 | On chiller unit |
| Outside | 111 ft. | 5 | <MDA | <MDA | <MDA | <MDA | On heat exchanger fins |
| Outside | 111 ft. | 6 | <MDA | <MDA | <MDA | <MDA | On concrete platform |
| Outside | 111 ft. | 7 | <MDA | <MDA | <MDA | <MDA | On concrete platform |
| Outside | 111 ft. | 8 | <MDA | <MDA | <MDA | <MDA | On concrete platform |
| Outside | 100 ft. | 9 | <MDA | <MDA | <MDA | <MDA | On concrete platform |
| Containment | 56 ft. | 10 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 11 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 12 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 13 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 14 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 15 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 16 | <MDA | 3,590 | <MDA | <MDA | In drain |
| Containment | 56 ft. | 17 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 18 | <MDA | <MDA | <MDA | <MDA | On pedestal |
| Containment | 56 ft. | 19 | <MDA | <MDA | <MDA | <MDA | On drain |
| Containment | 56 ft. | 20 | <MDA | <MDA | <MDA | <MDA | On sump grating |
| Containment | 56 ft. | 21 | <MDA | <MDA | <MDA | <MDA | On HVAC unit |
| Containment | 56 ft. | 22 | <MDA | <MDA | <MDA | <MDA | On drain |
| Containment | 56 ft. | 23 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 79 ft. | 24 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 79 ft. | 25 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 79 ft. | 26 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 79 ft. | 27 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 83 ft. | 28 | <MDA | <MDA | <MDA | <MDA | On top of HVAC duct |
| Containment | 83 ft. | 29 | <MDA | <MDA | <MDA | <MDA | Grating |
| Containment | 83 ft. | 30 | <MDA | <MDA | <MDA | <MDA | Pipe adjacent to plenum |
| Containment | 83 ft. | 31 | <MDA | <MDA | <MDA | <MDA | In duct |
| Containment | 83 ft. | 32 | <MDA | <MDA | <MDA | <MDA | In vent |
| Containment | 83 ft. | 33 | <MDA | <MDA | <MDA | <MDA | Pump pedestal |
| Containment | 83 ft. | 34 | <MDA | <MDA | <MDA | <MDA | In drain |
| Containment | 83 ft. | 35 | <MDA | <MDA | <MDA | <MDA | In drain |
| Containment | 83 ft. | 36 | <MDA | <MDA | <MDA | <MDA | Pump pedestal |
| Containment | 83 ft. | 37 | <MDA | <MDA | <MDA | <MDA | Stairwell |
| Containment | 100 ft. | 38 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 100 ft. | 39 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 100 ft. | 40 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 100 ft. | 41 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 100 ft. | 42 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 100 ft. | 43 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 100 ft. | 44 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 100 ft. | 45 | <MDA | <MDA | <MDA | <MDA | On drain |
| Containment | 100 ft. | 46 | <MDA | <MDA | <MDA | <MDA | In duct |
| Containment | 111 ft. | 47 | <MDA | <MDA | <MDA | <MDA | Floor |

*Table 2. Results of the 2002 Radiological Survey at the Piqua, Ohio, Decommissioned Reactor Site (continued)*

| Location/ Building | Elevation[a] | Direct/ Smear # | Direct Reading Activity dpm/100 cm$^2$ | | Removable Activity dpm/100 cm$^2$ | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | Alpha | Beta | Alpha | Beta | |
| Containment | 111 ft. | 48 | <MDA | <MDA | <MDA | <MDA | Behind plenum |
| Containment | 111 ft. | 49 | <MDA | <MDA | <MDA | <MDA | Inside plenum |
| Containment | 100 ft. | 50 | <MDA | <MDA | <MDA | <MDA | Airlock floor |
| Aux. Bldg. | 79 ft. | 51 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 52 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 53 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 54 | <MDA | <MDA | <MDA | <MDA | On drain |
| Aux. Bldg. | 79 ft. | 55 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 56 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 57 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 58 | <MDA | <MDA | <MDA | <MDA | On drain |
| Aux. Bldg. | 79 ft. | 59 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 60 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 61 | <MDA | <MDA | <MDA | <MDA | On drain |
| Aux. Bldg. | 79 ft. | 62 | <MDA | <MDA | <MDA | <MDA | On sump cover |
| Aux. Bldg. | 79 ft. | 63 | <MDA | <MDA | <MDA | <MDA | Pump |
| Aux. Bldg. | 79 ft. | 64 | <MDA | <MDA | <MDA | <MDA | Floor under tank |
| Aux. Bldg. | 79 ft. | 65 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 66 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 79 ft. | 67 | <MDA | <MDA | <MDA | <MDA | Inside HVAC on floor |
| Aux. Bldg. | 79 ft. | 68 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 89 ft. | 69 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 121 ft. | 70 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 121 ft. | 71 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 121 ft. | 72 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 121 ft. | 73 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 121 ft. | 74 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 121 ft. | 75 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 111 ft. | 76 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 111 ft. | 77 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 111 ft. | 78 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 111 ft. | 79 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 111 ft. | 80 | <MDA | <MDA | <MDA | <MDA | On vent duct |
| Aux. Bldg. | 111 ft. | 81 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 82 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 83 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 84 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 85 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 86 | <MDA | <MDA | <MDA | <MDA | On floor drain |
| Aux. Bldg. | 100 ft. | 87 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 88 | <MDA | <MDA | <MDA | <MDA | On floor drain |
| Aux. Bldg. | 100 ft. | 89 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 90 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 91 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 92 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 93 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 94 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 95 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 96 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 97 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 98 | <MDA | <MDA | <MDA | <MDA | Floor |

*Table 2. Results of the 2002 Radiological Survey at the Piqua, Ohio, Decommissioned Reactor Site (continued)*

| Location/ Building | Elevation[a] | Direct/ Smear # | Direct Reading Activity dpm/100 cm$^2$ Alpha | Beta | Removable Activity dpm/100 cm$^2$ Alpha | Beta | Remarks |
|---|---|---|---|---|---|---|---|
| Aux. Bldg. | 100 ft. | 99 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 100 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 101 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 102 | <MDA | <MDA | <MDA | <MDA | Floor |
| Aux. Bldg. | 100 ft. | 103 | <MDA | <MDA | <MDA | <MDA | Floor |
| Containment | 56 ft. | 104 | <MDA | <MDA | <MDA | <MDA | On drain |
| Containment | 100 ft. | 105 | <MDA | <MDA | <MDA | <MDA | On drain |
| Outside | 100 ft. | 106 | <MDA | <MDA | <MDA | <MDA | Concrete floor |
| Outside | 100 ft. | 107 | <MDA | <MDA | <MDA | <MDA | Concrete wall |
| Outside | 100 ft. | 108 | <MDA | <MDA | <MDA | <MDA | Concrete floor |
| Outside | 100 ft. | 109 | <MDA | <MDA | <MDA | <MDA | Concrete floor |
| Outside | 100 ft. | 110 | <MDA | <MDA | <MDA | <MDA | Concrete floor |
| Containment | 74 ft. | 111 | <MDA | <MDA | <MDA | <MDA | On HVAC duct |

[a] Elevations are designated as feet above the lowest floor of the original plant.
key: dpm = disintegrations per minute; cm$^2$ = centimeters squared; MDA = minimum detectable activity; < = less than

# 3.0 Recommendations

On the basis of the inspection and radiological survey results, no follow up inspection is required.

The following action is recommended:

1. Suspect asbestos material should be removed (page 2).

   **Recommendation:** DOE and PPS should make a determination concerning who has responsibility to identify and abate asbestos at the PNPF.

# 4.0 Photographs

| Photograph Location Number | Elevation | Photograph Description |
|---|---|---|
| PL–1 | 100 feet | Deteriorated concrete decking. |
| PL–2 | 56 feet | Falling plaster and peeling paint. |
| PL–3 | 56 feet | Peeling paint. |

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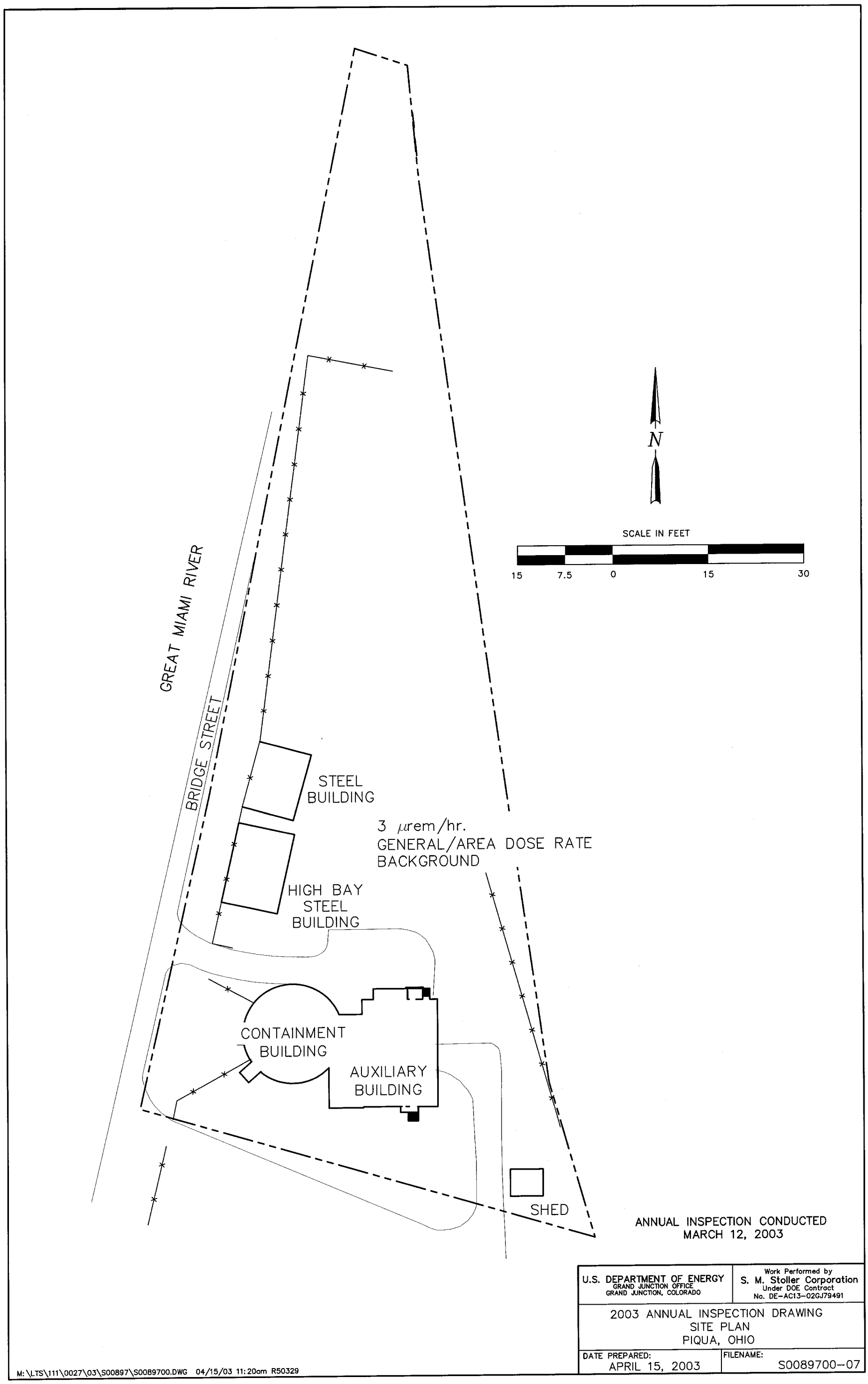
PIQ 03/2003. PL–1. Deteriorated concrete decking.

PIQ 03/2003. PL–2. Falling plaster and peeling paint.

PIQ 03/2003. PL–3. Peeling paint.




ANNUAL INSPECTION CONDUCTED
MARCH 12, 2003

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| U.S. DEPARTMENT OF ENERGY<br>GRAND JUNCTION OFFICE<br>GRAND JUNCTION, COLORADO | Work Performed by<br>S. M. Stoller Corporation<br>Under DOE Contract<br>No. DE-AC13-02GJ79491 |
| 2003 ANNUAL INSPECTION DRAWING<br>SITE PLAN<br>PIQUA, OHIO | |
| DATE PREPARED:<br>APRIL 15, 2003 | FILENAME:<br>S0089700-07 |

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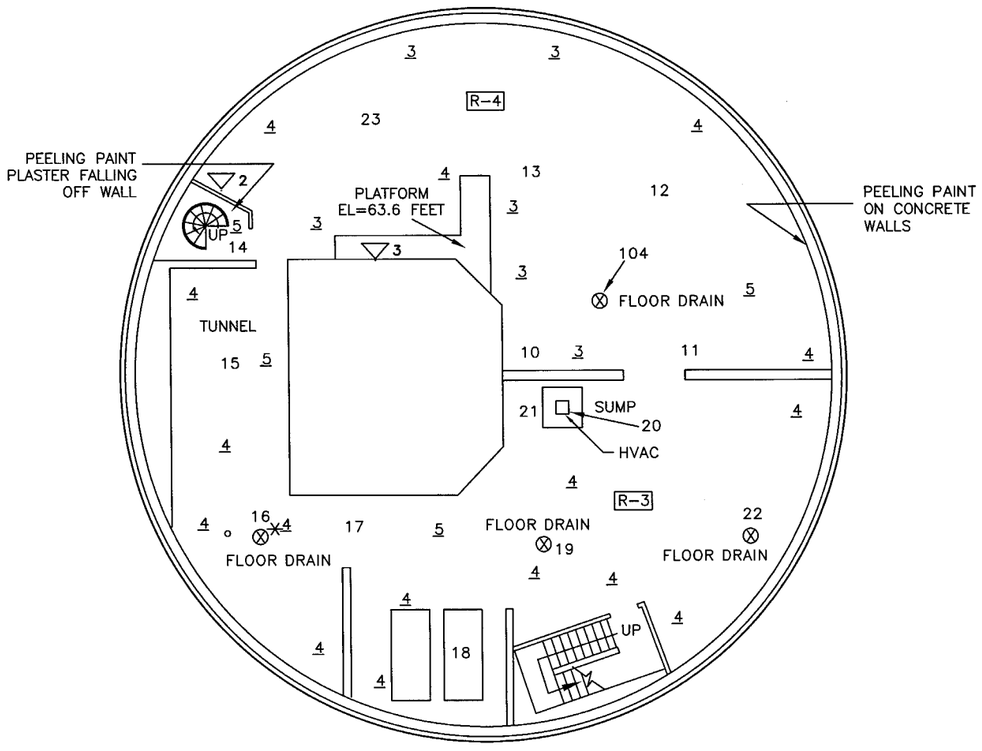
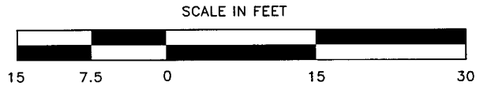



PLAN – 56 FOOT LEVEL


| INSTRUMENT | E600/SHP340 | | WPC-9350 | Bicron Micro-rem |
|---|---|---|---|---|
| SERIAL # | S16129/S16324 | | 15686 | 15984 |
| CAL. DUE | 12-14-03/3-5-04 | | 4-26-03 | 11-1-03 |
| CORRECTION FACTORS | NA | | α EFF. 30.08<br>β EFF. 50.32 | N/A |
| BACKGROUND | α 30 dpm/100 cm $^2$<br>β 1200 dpm/100 cm$^2$ | | α 0.150 CPM<br>β 1.050 CPM | 2-6 μrem/hr |
| KEY:<br>NO. =GENERAL AREA DOSE RATE (μrem/hr)<br>~~NO.~~ =CONTACT DOSE RATE(μrem/hr)<br>NO. =SMEAR/DIRECT LOCATION<br>R-4 = ROOM NUMBER | | | SURVEYED BY: DATE:<br>REVIEWED BY: DATE: | |

EXPLANATION

▽1 PHOTO LOCATION AND NUMBER

ANNUAL INSPECTION CONDUCTED
MARCH 12, 2003

| U.S. DEPARTMENT OF ENERGY<br>GRAND JUNCTION OFFICE<br>GRAND JUNCTION, COLORADO | Work Performed by<br>S. M. Stoller Corporation<br>Under DOE Contract<br>No. DE-AC13-02GJ79491 |
|---|---|
| 2003 ANNUAL RADIOLOGICAL SURVEY RESULTS<br>PIQUA NUCLEAR POWER FACILITY<br>PIQUA, OHIO<br>56 FOOT LEVEL | |
| DATE PREPARED:<br>APRIL 15, 2003 | FILENAME:<br>S0089700-01 |

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| INSTRUMENT | E600/SHP340 | | WPC-9350 | Bicron Micro-rem |
|---|---|---|---|---|
| SERIAL # | S16129/S16324 | | 15686 | 15984 |
| CAL. DUE | 12-14-03/3-5-04 | | 4-26-03 | 11-1-03 |
| CORRECTION FACTORS | NA | | α EFF. 30.08<br>β EFF. 50.32 | N/A |
| BACKGROUND | α 30 dpm/100 cm²<br>β 1200 dpm/100 cm² | | α 0.150 CPM<br>β 1.050 CPM | 2-6 µrem/hr |

KEY:

NO. =GENERAL AREA DOSE RATE (µrem/hr)

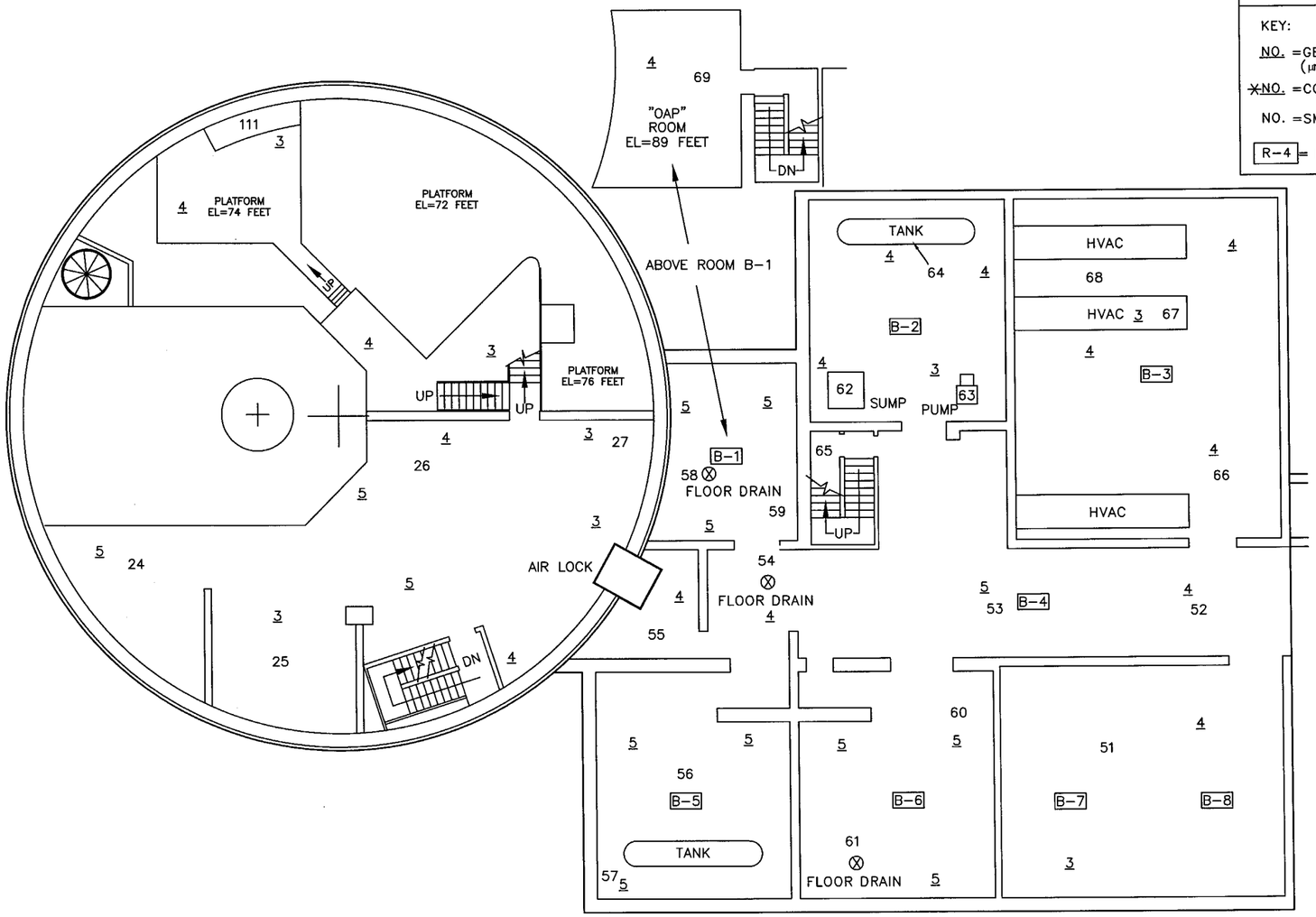
~~NO.~~ =CONTACT DOSE RATE(µrem/hr)

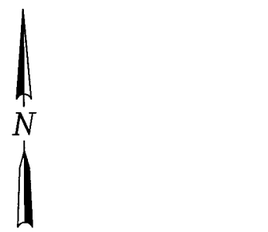
NO. =SMEAR/DIRECT LOCATION

R-4 = ROOM NUMBER

SURVEYED BY: DATE:

REVIEWED BY: DATE:




SCALE IN FEET

15 7.5 0 15 30

# PLAN – 79 FOOT LEVEL

ANNUAL INSPECTION CONDUCTED
MARCH 12, 2003

| U.S. DEPARTMENT OF ENERGY<br>GRAND JUNCTION OFFICE<br>GRAND JUNCTION, COLORADO | Work Performed by<br>S. M. Stoller Corporation<br>Under DOE Contract<br>No. DE-AC13-02GJ79491 |
|---|---|
| 2003 ANNUAL RADIOLOGICAL SURVEY RESULTS<br>PIQUA NUCLEAR POWER FACILITY<br>PIQUA, OHIO<br>79 FOOT LEVEL | |
| DATE PREPARED:<br>APRIL 15, 2003 | FILENAME:<br>S0089700-02 |

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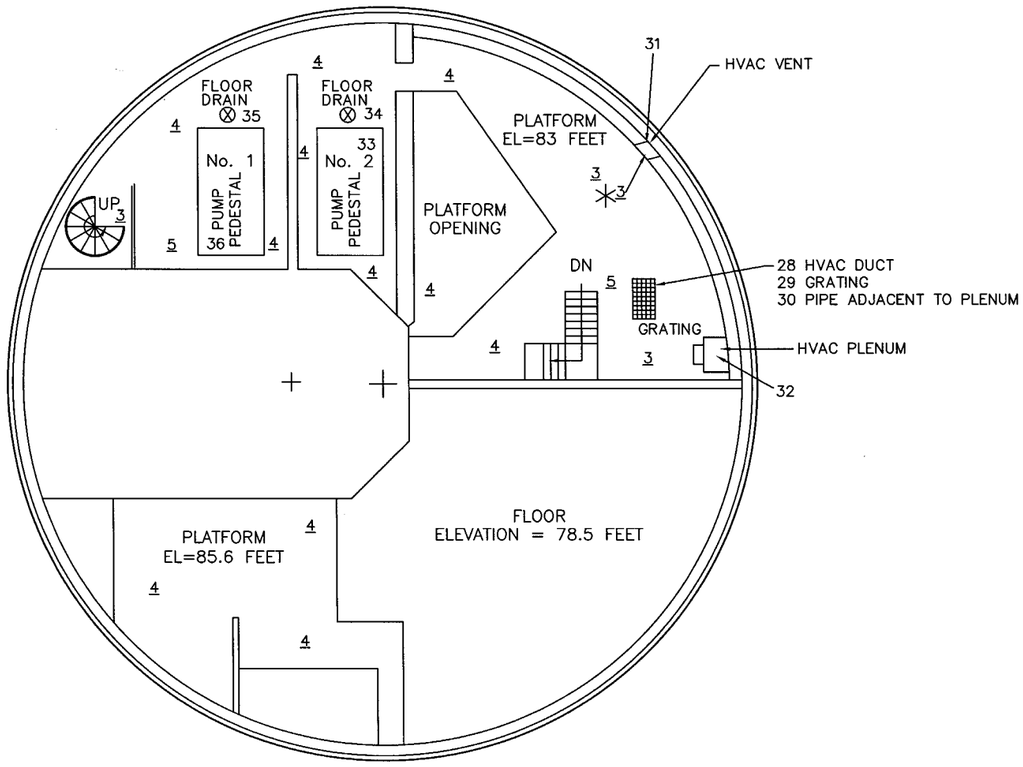
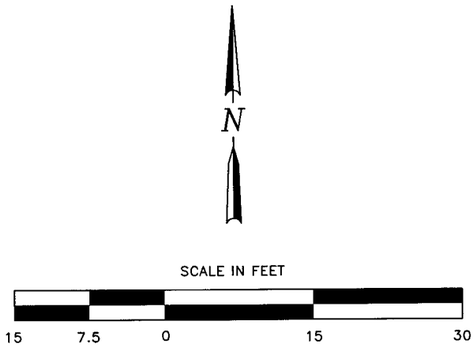



PLAN – 83 FOOT LEVEL




| INSTRUMENT | E600/SHP340 | | WPC–9350 | Bicron Micro–rem |
|---|---|---|---|---|
| SERIAL # | S16129/S16324 | | 15686 | 15984 |
| CAL. DUE | 12–14–03/3–5–04 | | 4–26–03 | 11–1–03 |
| CORRECTION FACTORS | NA | | α EFF. 30.08<br>β EFF. 50.32 | N/A |
| BACKGROUND | α 30 dpm/100 cm²<br>β 1200 dpm/100 cm² | | α 0.150 CPM<br>β 1.050 CPM | 2–6 μrem/hr |

KEY:

NO. =GENERAL AREA DOSE RATE (μrem/hr)

✳NO. =CONTACT DOSE RATE(μrem/hr)

NO. =SMEAR/DIRECT LOCATION

R-4 = ROOM NUMBER

SURVEYED BY: DATE:

REVIEWED BY: DATE:

ANNUAL INSPECTION CONDUCTED
MARCH 12, 2003

| U.S. DEPARTMENT OF ENERGY<br>GRAND JUNCTION OFFICE<br>GRAND JUNCTION, COLORADO | Work Performed by<br>S. M. Stoller Corporation<br>Under DOE Contract<br>No. DE–AC13–02GJ79491 |
|---|---|

2003 ANNUAL RADIOLOGICAL SURVEY RESULTS
PIQUA NUCLEAR POWER FACILITY
PIQUA, OHIO
83 FOOT LEVEL

| DATE PREPARED: | FILENAME: |
|---|---|
| APRIL 15, 2003 | S0089700–03 |

M:\LTS\111\0027\03\S00897\S0089700.DWG 04/15/03 11:30am R50329

| INSTRUMENT | E600/SHP340 | | WPC-9350 | Bicron Micro-rem |
|---|---|---|---|---|
| SERIAL # | S16129/S16324 | | 15686 | 15984 |
| CAL. DUE | 12-14-03/3-5-04 | | 4-26-03 | 11-1-03 |
| CORRECTION FACTORS | NA | | α EFF. 30.08<br>β EFF. 50.32 | N/A |
| BACKGROUND | α 30 dpm/100 cm²<br>β 1200 dpm/100 cm² | | α 0.150 CPM<br>β 1.050 CPM | 2-6 µrem/hr |

KEY:

NO. =GENERAL AREA DOSE RATE (µrem/hr)

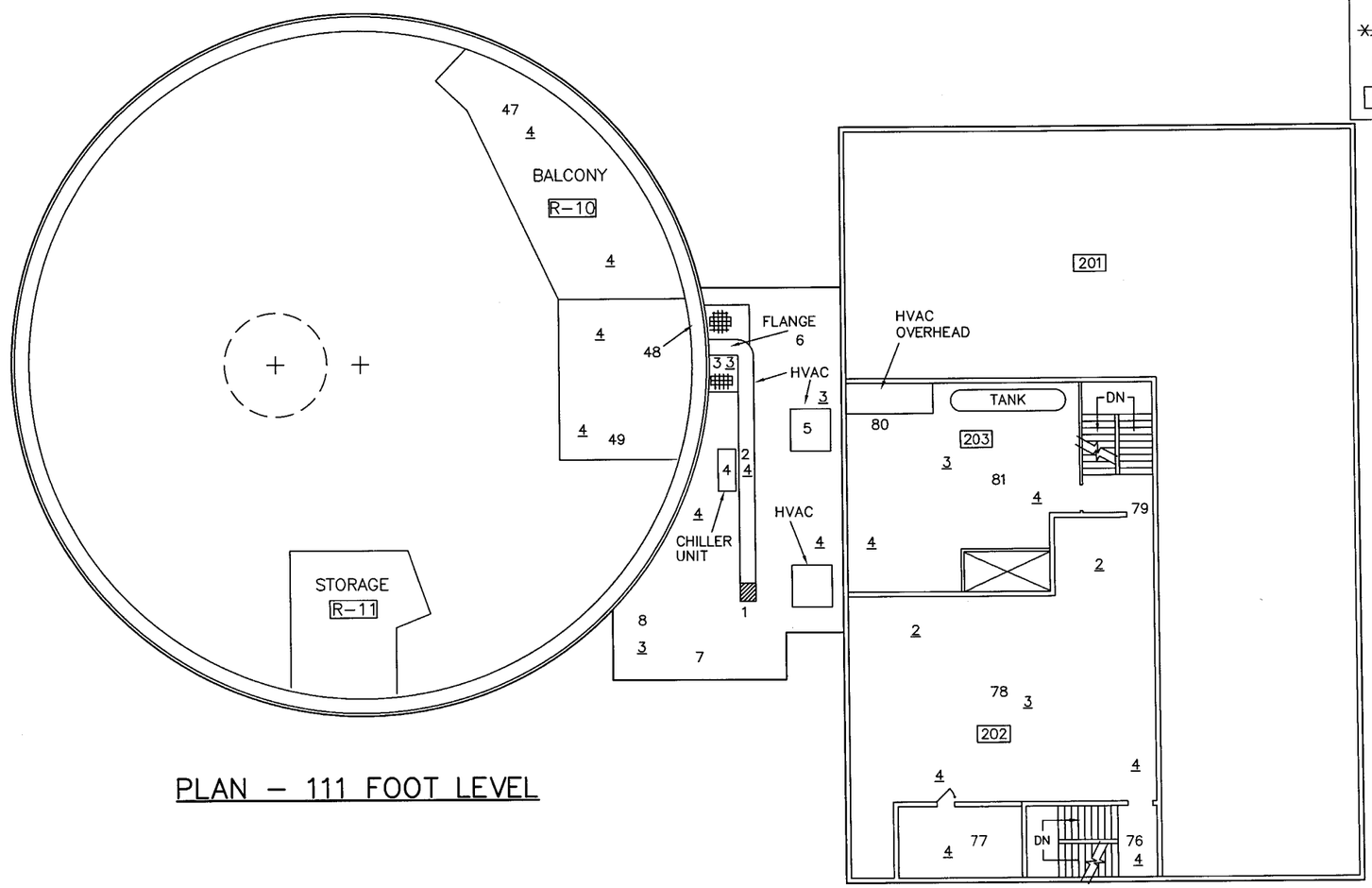
~~NO.~~ =CONTACT DOSE RATE(µrem/hr)

NO. =SMEAR/DIRECT LOCATION

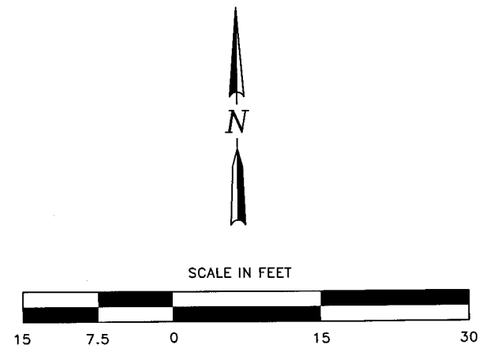
R-4 = ROOM NUMBER

SURVEYED BY: DATE:

REVIEWED BY: DATE:




PLAN – 111 FOOT LEVEL




ANNUAL INSPECTION CONDUCTED
MARCH 12, 2003

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|---|---|
| 2003 ANNUAL RADIOLOGICAL SURVEY RESULTS<br>PIQUA NUCLEAR POWER FACILITY<br>PIQUA, OHIO<br>111 FOOT LEVEL | |
| DATE PREPARED:<br>APRIL 15, 2003 | FILENAME:<br>S0089700-05 |

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| INSTRUMENT | E600/SHP340 | | WPC-9350 | Bicron Micro-rem |
|---|---|---|---|---|
| SERIAL # | S16129/S16324 | | 15686 | 15984 |
| CAL. DUE | 12-14-03/3-5-04 | | 4-26-03 | 11-1-03 |
| CORRECTION FACTORS | NA | | α EFF. 30.08<br>β EFF. 50.32 | N/A |
| BACKGROUND | α 30 dpm/100 cm $^2$<br>β 1200 dpm/100 cm$^2$ | | α 0.150 CPM<br>β 1.050 CPM | 2-6 μrem/hr |

KEY:

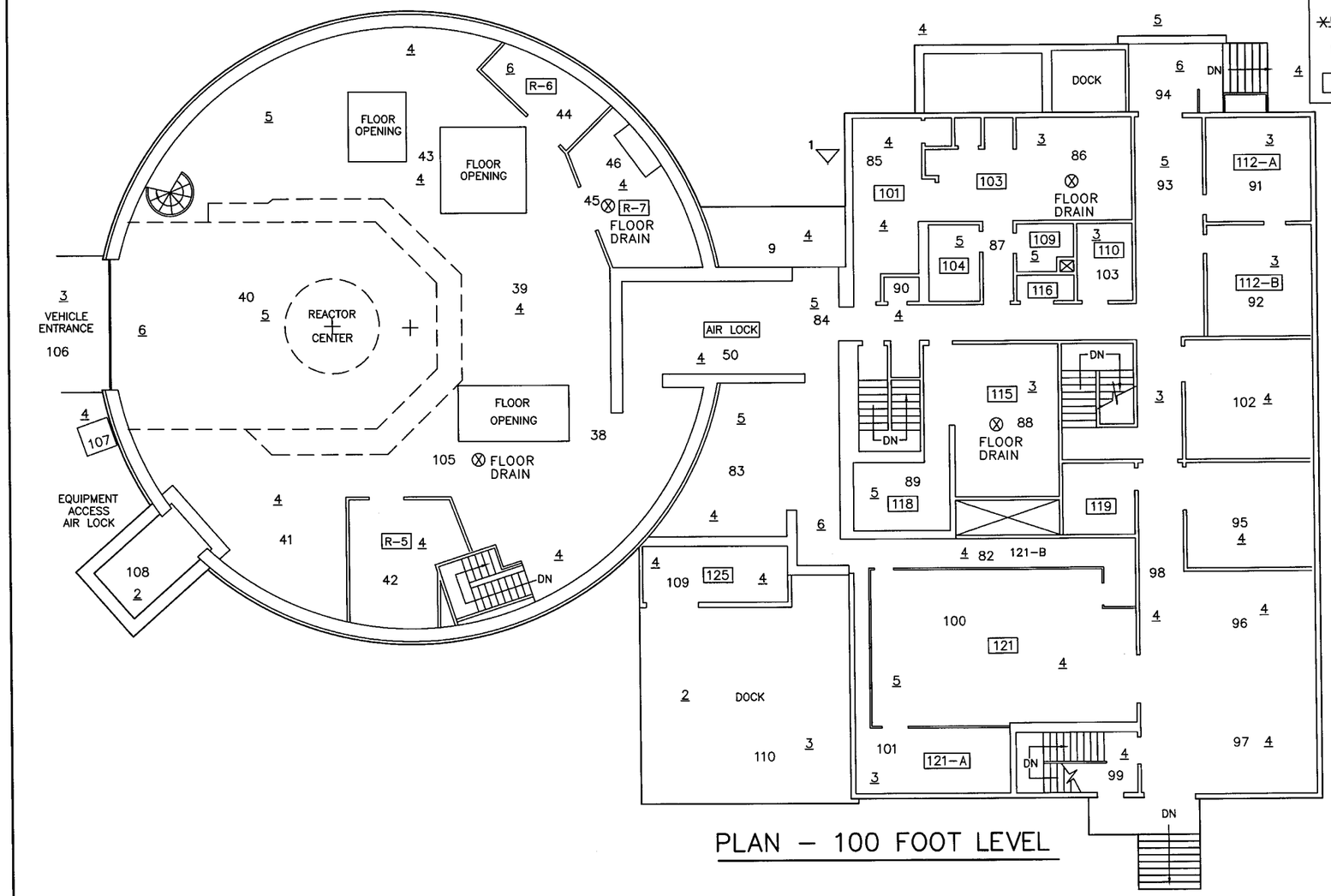
NO. =GENERAL AREA DOSE RATE (μrem/hr)

~~NO.~~ =CONTACT DOSE RATE(μrem/hr)

NO. =SMEAR/DIRECT LOCATION

R-4 = ROOM NUMBER

| SURVEYED BY: | DATE: |
|---|---|
| REVIEWED BY: | DATE: |




PLAN – 100 FOOT LEVEL

EXPLANATION

▽1 PHOTO LOCATION AND NUMBER

N

SCALE IN FEET

15 7.5 0 15 30

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MARCH 12, 2003

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|---|---|

2003 ANNUAL RADIOLOGICAL SURVEY RESULTS
PIQUA NUCLEAR POWER FACILITY
PIQUA, OHIO
100 FOOT LEVEL

| DATE PREPARED: | FILENAME: |
|---|---|
| APRIL 15, 2003 | S0089700-04 |

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| INSTRUMENT | E600/SHP340 | | WPC-9350 | Bicron Micro-rem |
|---|---|---|---|---|
| SERIAL # | S16129/S16324 | | 15686 | 15984 |
| CAL. DUE | 12-14-03/3-5-04 | | 4-26-03 | 11-1-03 |
| CORRECTION FACTORS | NA | | α EFF. 30.08<br>β EFF. 50.32 | N/A |
| BACKGROUND | α 30 dpm/100 cm²<br>β 1200 dpm/100 cm² | | α 0.150 CPM<br>β 1.050 CPM | 2-6 μrem/hr |

KEY:

NO. =GENERAL AREA DOSE RATE (μrem/hr)

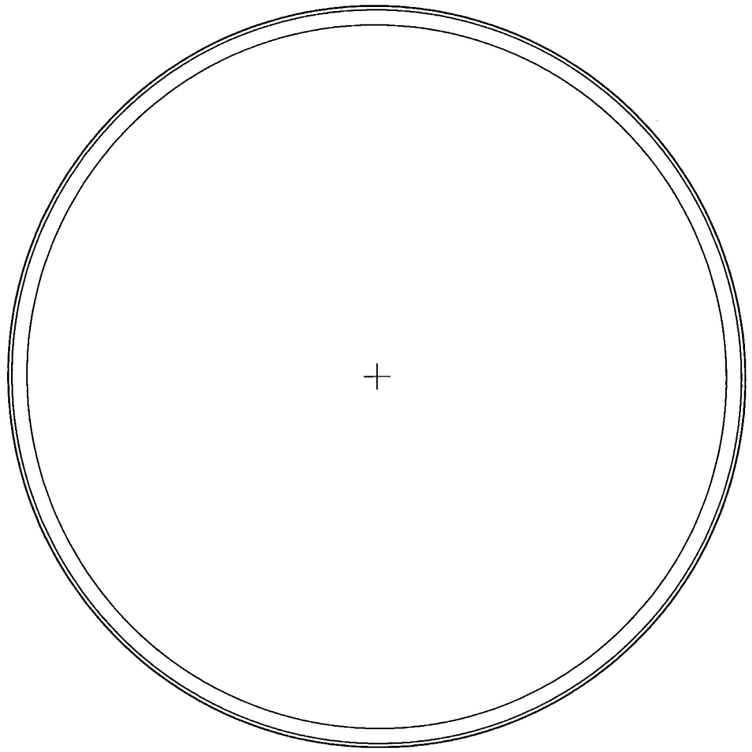
~~X~~NO. =CONTACT DOSE RATE(μrem/hr)

NO. =SMEAR/DIRECT LOCATION

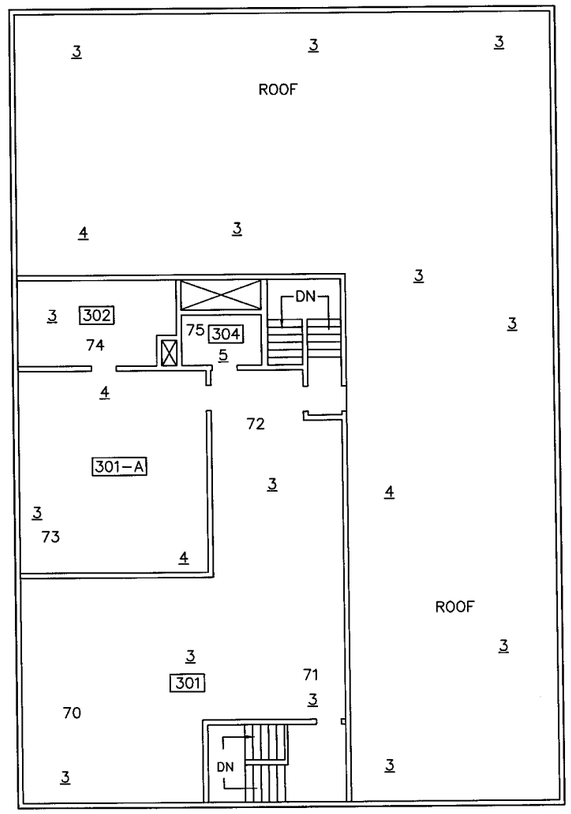
R-4 = ROOM NUMBER

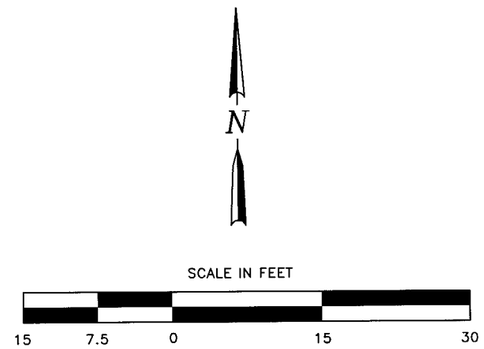
SURVEYED BY: DATE:

REVIEWED BY: DATE:



PLAN – 121 FOOT LEVEL

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|---|---|

2003 ANNUAL RADIOLOGICAL SURVEY RESULTS
PIQUA NUCLEAR POWER FACILITY
PIQUA, OHIO
121 FOOT LEVEL

| DATE PREPARED: | FILENAME: |
|---|---|
| APRIL 15, 2003 | S0089700-06 |

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